Required statement is attached.

ITEM No. 4

Two terms in claim 5 was corrected.

RESPONSE TO CLAIM REJECTION – 35 USC $ 101

ITEM No. 6, Claim 8:

Claim 8 has been amended to limit the range of product in figure of media, by stating its composition and format. Supporting description is found in paragraph [0021] and other places.

RESPONSE TO CLAIM REJECTION – 35 USC $ 112

ITEM No. 8

Second step in previous claim 6 may sound automatic process in machine. But, it is human operation aided by means in claims 2 or 5. Claim has been amended to make it clear how to realize second step by showing means to do it. Description, on which claim 6 is based, is found at paragraph [0023] of publication of this invention 2007-0199431, or substitute specification attached.

In this response, previous claim 6 has been separated in claim 6 and new claim 9, to make it simple without many "or" expression. Claim 6 is described as using computer programs stated in claim 4 and 5, and claim 9 is described as using "means" stated in claim 1 and 2. Both currently amended claim 6 and newly added claim 9 stand on the description in paragraph [0023] in the specification, and are stated with programs or means defined in precedent claims. So, practice of the second step can be understood and executed.

ITEM No. 10

Indefinite expression "such as compact disk" has been deleted in claim 6.

ITEM No. 11 Claim 6:

In music minus one or karaoke, solo part or singer part is excluded from recorded sound. Claim 6 and has been amended with following wording:

Addition to preamble: after karaoke ", wherein sound of a part is excluded in recorded sound,"

"recording of full member performance" → recording of performance by all members including said part to be excluded

"Sound recording of performance missing specific part" → sound recording of performance excluding said part

New Claim 9 also uses above expression.

ITEM No. 12

I refined the claims as far as I could.

RESPONSE TO CLAIM REJECTION – 35 USC $ 102

ITEM No. 16. Claim 4:

Specification of '492 does not teach any of three computer programs in claim 4.

'492 patent teaches methods of determining BPM (beats per minute) from sound data. So, purpose is different with this invention.

"first program" in Claim 4 of this invention is described as

> first program for reading out data about each beat duration time stored in memory or media and get beat duration time one by one:

This means beat duration time is given as source at first.

Office action referred portion of '492 (cols. 5-6) in ITEM No. 16 as corresponding to first program in claim 4. But, the referred portion describes first step (program) for getting sound data as digital form. It describes about three cases; Case 1: source is in the conventional audio format such as MP3, WAV, and CD, Case 2: source is already in the computer memory, Case 3: pick up from real time sound. Anyway it starts from sound data not beat duration time.

"second program" in Claim 4 of this invention is described as

> second program for measuring period of said duration time one by one:

"Measuring" here means to tell timing of passing of given duration time from timing of previous beat in real time.

Office action referred portion of '492 (col. 6) as corresponding to second program in claim 4. But the referred portion describes next steps, which are for detecting beats timing (it says there are many methods to do this). And following portion describes about getting beat duration as time difference of consecutive beats (col 7 line 8-9). It is calculation rather than measuring. Beat duration here is result of these steps.

"third program" in Claim 4 of this invention is described as

> third program for indicating the timing of passing of said measured period by visual, audio or other output.

This third program indicates the timing in real time. Sound or display are used to indicate timing. It is not display of numeric data.

Office action referred claim 3 in '492 as corresponding to third program in claim4. But, "displaying said final BPM estimate" means display of numeric data, for example "120", usually by characters.

When compare two inventions as total function, two inventions aim processes of reverse way each other about source and result. Process in '492 starts from sound data and get beat duration, and then BPM, that is numeric data. Process in this invention starts from beat duration data and generate indication of beat timing. These two inventions are different in purpose, component programs and output.

ITEM No. 17. Claim 5:

Specification of '492 does not teach computer programs in claim 4, which is base of claim 5. Also, it does not teach fifth program in claim 5.

It is implied that "initial input" in claim 5 must cover each beat timing along music, because it is used by first program in claim 4. To make this requirement clear, claim 5 has been amended by adding "each one by one" before "beat timing" and "beat duration".

Then, "fourth program" in amended Claim 5 of this invention is described as:

> fourth program for input of each one by one beat timing from a mouse or other device operated by user for initial input or partial modification purpose:

Office action referred portion of '492 (col. 11, lines 53-65) as corresponding to forth program in claim 5. It does describe input by tapping-along by mouse or other devices. Next paragraph (col. 11 line 66 ~ col. 12 line 59) describes more details about how program uses the tapping input data. The program seeks matching between one of BPM candidates and any duration time between two tapping input time. If matching found, no more tapping input is necessary. To get accurate duration time, many tapping input are required. But, even many tapping are input, it requires only average (col.12 line 26). It says typically tapping of only few seconds works (col. 12, lines 41-44). All of individual beat timing are not required, because it assumes tempo is constant at least locally.

"fifth program" in amended Claim 5 of this invention is described as:

fifth program for recording each one by one beat duration data on memory or media based on input by fourth program.

Office action referred portion of '492 (col. 12) as corresponding to fifth program in claim 5. There is no explicit description of memory operation of individual beat timing. It may memorize temporarily beats timing or beat duration, but it is not necessary all of beat timing along music for use by other program.

'492 is different with computer program of Claim 5. '492 does not suggest computer program of Claim 5. Claim 5 includes limitation not found in '492.

ITEM No. 18. Claim 8:

I can not find description on media holding beat duration data in '492. Instead, it uses media holding estimated BPM value or music sound data in format of MP3, WAV or CD. In '492, beat duration is calculated temporarily to compare with BPM candidates, but individual beat duration data is not important data to keep on media.

Media described in '492 holds different contents with media in Claim 8.

RESPONSE TO CLAIM REJECTION – 35 USC $ 103

ITEM No. 21. Claim 1:

Claim 3 in '492 mentions about displaying BPM estimate. It is a numeric value, not timing of beat.

As described at ITEM No. 16 in this response, three means, written as steps, in '492 are different with component of this invention. '492 does not teach nor suggest content of claim 1 as whole system or as each component.

ITEM No. 22, (Claim 1)

This invention deals music with moving tempo. Duration time may change beat by beat. So, each individual beat timing or duration is important.

In ,492, tempo is assumed to be constant. So is beat duration and BPM value. It does not and can not deal music with moving tempo.

Also, in '853, tempo is assumed to be constant. Because tempo is set by "tempo control knob 42" (Fig 3 and Col. 3 lines 18-20), so, it is not usable for tempo varying beat by beat with reproductive precision.

In combination of '492 and '853, '492 is supposed to give tempo (BPM) to '853 as it is constant. '853 can not show beat timing, which varies beat by beat.

Both '492, '853 and its combination does not teach or suggest the art to indicate beat timing varying along the music.

ITEM No. 23. Claim 2:

Same as explained in ITEM No. 17. Tempo is assumed to be constant in '492. Tapping-along by mouse or other devices is described in '492. But it does not mention about "initial input or partial modification purpose", it describes its purpose as additional input for BPM selection process.

The program in '492 seeks matching between one of BPM candidates and any duration time between two tapping input time. If matching found, no more tapping input is necessary. To get accurate duration time, many tapping input are required. But, it requires average (col.12 line 26). Individual beat timing is not required, because it assumes tempo is constant at least locally. There is no description of memory operation of individual beat timing or duration time.

To clarify the difference, wording "each one by one" has been added to claim 2. Then difference with '492 is clear.

ITEM No. 24, Claim 3:

Claim 3 has been amended to limit the figure of display device to a vertical bar. So that difference is clear. Straight shape is easier to make, or has wide selection of usable devices.

Also, claim 10, 11, 12 has been newly added to claim more detail feature about display of beats. To realize claim 11, straight bar claimed in claim 3 is necessary.

ITEM No. 25, Claim 6.

As explained in ITEM No. 16, '492 and '853 does not teach the art of claim 4. Also, ITEM No. 21 in this response explains that '492 and '853 does not teach art of claim 1. Then they can not be used in process of claim 6.

ITEM No. 26 (claim 6)

Karaoke is widely used now. But, Many of the music played with karaoke have steady tempo. It depends on genre, but, for example, performance of concerto composed in Romantic era, commonly includes a lot of excess *agogic* accents or *tempo rubato* (local tempo change). Tempo in these performances vary beat by beat frequently. And this variance in tempo is recognized as important for expressive playing. Playing this way can be done well only by virtuoso or at least skilled player. Advanced students want to copy these *tempo rubato* performed by virtuoso. But, there is not enough quality karaoke supplies of such music including *tempo rubato* now. Also in other genre too, it is not rare that *tempo rubato* is required at some portion of music.

Current karaoke materials for these music have tendency to fall into constant tempo. It is because there was much problem in production as well as playing-along with karaoke. Claim 6 gives solution to production of music with moving tempo.

As '492 teaches art of getting BPM, average tempo of music, the art is useful for karaoke production only in case music has constant tempo.

ITEM No. 27

Technique in '832 and '724 may teach the way to realize the second step of claim 6. But this matter does not mean technique in these two patents teach the four steps of claim 6. And '492 and '853 do not suggest special metronome necessary for realization of claim 6.

Techniques in '832 and '724 is for synchronizing music sequencer to recorded sound on tape. Human assists machine by tapping to accomplish the task. In this invention, metronome assists human performance and production of karaoke.

ITEM No. 28, Claim 7.

In '295, metronome sound is recorded as sound data in different channel and reproduced. This means that additional step after step corresponding to third step of Claim 7, is necessary to record rhythm count sound or metronome sound for '295. It does not teach or suggest how to make these additional sound if tempo moves along music.

'295 does not teach nor suggest visual display of beat timing, which is better than sound for performance using music minus one.

For realization of Claim 7, beat duration data generated in the second step of claim 6 comprises numeric data, and is usually stored on different track or file on the publishing media. The duration data will be fed to special metronome or computer program of this invention. Sound data will be fed to playback device. But, it is convenient for delivering and for keeping at the user site to be on the same media to avoid un-necessary search for corresponding media.

CONCLUSION

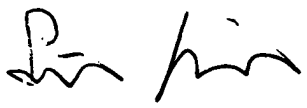
Language problems have been fixed.

For each claim rejection in office action, some amendment to claims has been done, and reason of objection was described.

There are newly added claims with further detailed limitations.

Further examination is appreciated.

Sincerely,



Seiji Kashioka 1/19/2009